IN THE CLAIMS:

Please note that all claims that are currently pending and under consideration in the above-referenced application are shown below, in clean form, for clarity.

Cancel claims 4, 5, 21, 22, 32, and 33 without prejudice or disclaimer.

1. (Three Times Amended) A mold apparatus for forming at least one metal bump for direct placement on bond pads on a secondary substrate, comprising:
a substrate having a surface;
at least one cavity formed in said surface of said substrate, said cavity having substantially the same dimensions as the at least one metal bump, said at least one cavity having a shape of one of a trapezoidal shape, a hemispherical shape, rectangular shape, and a square shape; and
a nonstick protective layer applied to said at least one cavity.

2. (Previously Amended) The mold apparatus according to claim 1, wherein said nonstick protective layer is a silicon oxide layer.

3. (Previously Amended) The mold apparatus according to claim 1, wherein said nonstick protective layer is a silicon nitride layer.

6. The mold apparatus according to claim 1, wherein said at least one cavity has a depth in said surface of said substrate of about 28 micrometers.

7. (Previously Amended) The mold apparatus according to claim 1, wherein said nonstick protective layer has a thickness ranging from about 200 Angstroms to 5 micrometers.

8. The mold apparatus according to claim 1, wherein said at least one cavity has a trapezoidal shape.

9. The mold apparatus according to claim 1, wherein said at least one cavity has a hemispherical shape.

10. The mold apparatus according to claim 1, wherein said at least one cavity has a rectangular shape.

11. The mold apparatus according to claim 1, wherein said at least one cavity has a square shape.

12. The mold apparatus according to claim 1, further comprising:
at least one heating strip located on another surface of said substrate.

13. The mold apparatus according to claim 1, further comprising:
a plurality of heating strips located on another surface of said substrate.

14. The mold apparatus according to claim 12, further comprising:
an electrical conductor connected to a portion of the at least one heating strip.

15. The mold apparatus according to claim 13, further comprising:
an electrical conductor connected to a portion of the plurality of heating strips.

16. The mold apparatus according to claim 1, wherein said substrate comprises semiconductor material.

17. The mold apparatus according to claim 1, wherein said substrate comprises ceramic material.

18. (Three Times Amended) A solder mold apparatus for forming at least one metal bump for direct placement on a corresponding bond pad on a secondary substrate, comprising:
a substrate having a surface;
at least one cavity formed in said surface of said substrate, said cavity having substantially the same dimensions as the at least one metal bump, said at least one cavity having a shape of one of a trapezoidal shape, a hemispherical shape, rectangular shape, and a square shape;
a nonstick protective layer applied to said at least one cavity; and
a metal paste applicator.

19. (Previously Amended) The solder mold apparatus according to claim 18, wherein said nonstick protective layer is a silicon oxide layer.

20. (Previously Amended) The solder mold apparatus according to claim 18, wherein said nonstick protective layer is a silicon nitride layer.

23. The solder mold apparatus according to claim 22, further comprising a metal paste dispenser, coupled to said metal paste applicator, to place a metal paste on said substrate.

24. The solder mold apparatus according to claim 23, further comprising a heating element to melt said metal paste to form a contact for application to said secondary substrate.

25. The solder mold apparatus according to claim 18, wherein said at least one cavity has a depth in said surface of said substrate of about 28 micrometers.

26. (Previously Amended) The solder mold apparatus according to claim 18, wherein said nonstick protective layer has a thickness ranging from above 200 Angstroms to 5 micrometers.

27. The solder mold apparatus according to claim 18, wherein said substrate comprises semiconductor material.

28. The solder mold apparatus according to claim 18, wherein said substrate comprises a ceramic material.

29. (Three Times Amended) A mold apparatus for forming at least one metal bump with a width and a length for direct placement on bond pads on a secondary substrate, comprising:

a substrate having a surface;

at least one cavity formed in said surface of said substrate, said at least one cavity having a selected width and a selected length in said surface, said selected width and said selected length being substantially the same as said width and length of the at least one metal bump, said at least one cavity having a shape of one of a trapezoidal shape, a hemispherical shape, rectangular shape, and a square shape; and

a nonstick protective layer applied to said at least one cavity.

30. (Previously Amended) The mold apparatus according to claim 29, wherein said nonstick protective layer is a silicon oxide layer.

31. (Previously Amended) The mold apparatus according to claim 29, wherein said nonstick protective layer is a silicon nitride layer.

34. The mold apparatus according to claim 29, wherein said at least one cavity has a depth in said surface of said substrate of about 28 micrometers.

35. (Previously Amended) The mold apparatus according to claim 29, wherein said nonstick protective layer has a thickness ranging from about 200 Angstroms to 5 micrometers.

36. The mold apparatus according to claim 29, wherein said selected width and said selected length are substantially the same.

37. The mold apparatus according to claim 29, wherein said selected width is smaller than said selected length.

39. The mold apparatus according to claim 29, further comprising:
at least one heating strip located on another surface of said substrate.

40. The mold apparatus according to claim 29, further comprising:
a plurality of heating strips located on another surface of said substrate.

41. The mold apparatus according to claim 29, wherein said substrate comprises semiconductor material.